

I(WE) CLAIM:

1. In a system wherein a portable device, arranged for wireless data communications with a computer, is located using radio signals between said portable device and fixed devices, and wherein said computer uses a database relating radio signal characteristics to location to compute location of said device, and communicates location data to said portable device using wireless data communications, the improvement wherein said computer communicates characteristic data representing radio signal environment in a sub-area corresponding to said location data to said portable device, and wherein said portable device monitors received radio signals corresponding to said data representing radio signal environment to detect a change in location of said device.
2. The improvement specified in claim 1 wherein said portable device uses said characteristic data and said radio signals corresponding to said radio signal environment to update said location data.
3. The improvement specified in claim 2 wherein said device is arranged to transmit said location data to a computer in association with other data and wherein said device transmits said updated location data in association with said other data.
4. The improvement specified in claim 1 wherein said portable device signals said computer to provide updated location data if said device determines that it has changed location.
5. The improvement specified in claim 1 wherein said portable device signals said computer to provide an increased rate of updated location data if said device determines that it has moved.
6. A portable device arranged to communicate with a computer using wireless data communications, comprising:

at least one radio receiver for receiving signals including data communications signals; and

a processor arranged to receive from said radio and store location data and characteristic data representing radio signal environment in a sub-area corresponding to said location data, said processor being arranged to cause said receiver to monitor signals corresponding to said radio signal environment and to provide said processor with radio signal data corresponding to said radio signal environment, and said processor being further arranged to use said radio signal data and said characteristic data representing radio signal environment in a sub-area corresponding to said location data to determine if said device has changed location.

7. A portable device as specified in claim 6 wherein said processor is further arranged to use said radio signal data and said characteristic data representing radio signal environment in a sub-area corresponding to said location data to update said location data.

8. A portable device as specified in claim 7 wherein said device is arranged to transmit said location data to a computer in association with other data.

9. A portable device as specified in claim 6 wherein said portable device further includes a transmitter and wherein said processor is arranged to cause said transmitter to send a data message to said computer to cause said computer to update said location data if said device has changed location.

10. A portable device as specified in claim 6 wherein said portable device further includes a transmitter and wherein said processor is arranged to cause said transmitter to send a data message to said computer to cause said computer to provide an increased rate of location data if said device has changed location.

11. In a system wherein a portable device, arranged for wireless data communications with a computer, is located using radio signals between said portable device and fixed devices, and wherein said computer uses a database relating radio signal characteristics to location to compute location of said device, and communicates location data to said portable device using wireless data communications, the improvement wherein said portable device monitors received radio signals and compares received radio signal characteristics to the characteristics of previously received radio signals to detect a change in location of said device.

12. The improvement specified in claim 11 wherein said portable device signals said computer to provide updated location data if said device determines that it has changed location.

13. The improvement specified in claim 11 wherein said portable device signals said computer to provide an increased rate of updated location data if said device determines that it has changed locations.

14. A portable device arranged to communicate with a computer using wireless data communications, comprising:

at least one radio for sending and receiving signals including data communications signals; and

a processor arranged to cause said radio to monitor received radio signals and to provide said processor with radio signal data corresponding to characteristics of said radio signals, and said processor being arranged to compare said radio signal data to previously received radio signal data to determine if said device has changed location.

15. A portable device as specified in claim 14 wherein said portable device further includes a transmitter and wherein said processor is arranged to cause said transmitter to send a

data message to said computer to cause said computer to update device location data if said device has changed location.

16. A portable device as specified in claim 14 wherein said portable device further includes a transmitter and wherein said processor is arranged to cause said transmitter to send a data message to said computer to cause said computer to provide an increased rate of updated location data if said device has changed location.